

# Learning How to Learn in Sustainability Transitions Projects: The Potential Contribution of Developmental Evaluation

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**Background:** Community-based sustainability transitions projects are increasingly being considered for their potential as policy delivery vehicles for the UK government Climate Change Act commitments. At the same time, project funders seek reassurances that their investments are relevant in helping communities mitigate, and adapt to, the effects of climate change. Despite this increased pressure, recent research suggests that evaluations of such sustainability transitions projects have, on the one hand variable impacts, or impacts that are of an inadequate scale, duration, or type, or on the other, that project staff lack the capacity or resources to undertake monitoring and evaluation to the degree of rigour expected by policy makers and funders.

**Purpose:** This article reports on an extended case study of a fully-funded five year community-based sustainability transitions project in Leicestershire, England. In particular, it reviews the deployment of developmental evaluation (DE) methods in an attempt to capture the project team's learning about doing community-based sustainability work.

**Setting:** A funded community-based sustainability transitions project in a south Leicestershire market town.

**Intervention:** Developmental evaluation methods were used to capture project-based learning as a resource for project innovation and adaptation.

**Research Design:** Phronetic case study.

**Data Collection and Analysis:** Participant-observation, action research, focus and special issue group facilitation.

**Findings:** Use of a developmental evaluation method identified key learning points for the project actors; these focused on how the project had adapted to the complexities of the operating environment through innovations in second-order learning or learning how to learn. The paper makes recommendations for the design and funding arrangements of community-based sustainability transitions initiatives and developmental evaluation is endorsed as a viable and promising adjunct to more traditional impact, economic, and process evaluation methodologies.

**Keywords:** developmental evaluation; second-order learning; community-based sustainability; phronesis; action research; project design.

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## Introduction

From the perspective of policy-makers and donor agencies alike, community-based sustainability transitions initiatives offer potential returns on investment. For UK policy-makers, the return is helping to deliver on the government's obligations under the Climate Change Act (2008) to obtain 80% reduction in greenhouse gas emissions by 2050 (UK Parliament, 2008; DECC, 2014). For funders, initiatives are expected to demonstrate their added value in supporting wider locality and community endeavours consistent with the public good. One such public good is the establishment of community-owned micro-renewable energy generation schemes (Bradley, 2014; Aiken, 2015), consistent with the devolved powers enshrined in the 2011 UK Localism Act (H. M. Government, 2011). In line with these additional expectations, it is important that funded sustainability transitions initiatives are rigorously evaluated to establish a solid evidence base regarding their effectiveness (Hamilton, 2013; Seyfang et al., 2014).

The paper is structured as follows: we begin with a brief review of the many challenges encountered in evaluating community-based sustainability projects. We note that even when such projects are evaluated, the findings are often variable and not particularly encouraging, and suggest that this may be due to a combination of poorly defined indicators, data that is difficult to access or may be lacking validity, as well as project staff who prioritise delivery activities over monitoring and evaluation, or who lack the skillset to do so adequately.

The third section introduces the Sustainable Harborough case project which is the focus for this phronetic study. Originally construed as a test-and-learn project, the fourth section considers what the canon of evaluation can offer such a project and tests the contribution of the relatively new discipline of developmental evaluation (DE) as an adjunct to more traditional practices of process and impact evaluations. This approach is briefly introduced and discussed before the findings of this case study are discussed in the fifth section. Here we

introduce four critical thresholds associated with the project becoming a second-order learning system, a system that learned how to learn within the unique context in which it was established and maintained its viability. The paper concludes with some reflections and recommendations for how future test-and-learn projects might be construed.

## Challenges to Evaluating Community-Based Sustainability Transitions Projects

There are five significant challenges to implementing this more rigorous evaluation protocol. First, there are significant numbers of community-based sustainability transitions initiatives in the UK; over 500 in 2014 according to the UK Department of Energy and Climate Change (DECC, 2014). The definition for such initiatives, as offered by the European research project TESS, includes a heterogeneous range of actors, united by the intent to "serve the environmental and social sustainability needs and interests of (mostly) place-based communities" (TESS, 2016, p. 1). Moreover, it is not known how many of the 500 projects identified by DECC were grant-funded. The first challenge pertains to the divergent nature, scope, formal constitution, and even the governance and accountability of the large number of such transitions projects operating in the UK (Seyfang, 2010; Hargreaves et al., 2013; Seyfang et al., 2014).

The second challenge to rigorous, even standardised, evaluation is more technical in nature. Research into the impact of sustainability transition projects has tended to find that the evaluation practices are of a low quality (Letcher, Roberts, & Redgrove, 2007) in part due to the selection of inappropriate indicators based on poorly validated datasets (Dahl, 2012), or project staff who regard monitoring and evaluation practices as of lesser priority than their delivery roles or who lack the necessary skills to adequately identify key variables and collect relevant data (Hobson, Hamilton, & Mayne, 2014; Hobson, Mayne, & Hamilton, 2016). Moreover, any changes that do result are generally of variable and short-lived benefit

(Abrahamse et al., 2005; Bamberg & Möser, 2007; Petersen et al., 2007; Steg & Vlek, 2009; Hoffman & High-Pippert, 2010; Bolderdijk et al., 2013). There are a number of attempts to account for these variable findings. Some research suggests that the outcomes against which initiatives are evaluated for impact rely on measures that are either not meaningful to the community groups, are of contested validity and scale, or lacking robust underlying data (Letcher, Roberts, & Redgrove, 2007; Kern & Smith, 2008; Stephenson et al., 2010; Dahl, 2012; Turcu, 2013; Gooding, 2016). That is, community initiatives pose significant difficulties to the evaluator because they do not lend themselves to traditional experimental methods, such as randomized controlled trials or quasi-experimental design, which enable the identification of a clear and relatively unambiguous counterfactual (Milligan et al., 1998).

The third challenge to evaluation posed by these types of initiatives concerns the applicability of process evaluations in particular. It is not uncommon for many projects, funded and voluntary alike, to have either no theory of change, or one that is poorly articulated. A theory of change, or program logic, helps project actors locate themselves on the journey of transition, recognise obstacles and unexpected outcomes, and test whether anticipated project outcomes actually transpire (Weiss, 1995, 1997; Connell & Kubisch, 1998). Recently however, the theoretical basis for designing and deploying community transitions initiatives has come under criticism. Referring specifically to community development projects, some commentators have begun to challenge the reductionistic and linear thinking that underpins many theories of change and project design assumptions, claiming that these assumptions and paradigms do not survive the complexity and non-linearity of a project's operational context (Mowles, 2014; Burns & Worsley, 2015).

A further challenge pertains to the subject matter of what is being evaluated and the resource potential of these results. Unless the learning outcomes acquired by the project actors through the course of doing the project are defined explicitly, outcome or impact evaluation methods are often ill-equipped to

capture learning as a resource that might be used elsewhere to inform project design, evaluation methods, or outcome definitions (Mitchell, Lemon, & Fletcher, 2019). Evaluators will note, and even record, any learning that they become aware of in the course of an evaluation. However, unless project learning is captured as an outcome in its own right it tends to be treated as an interesting but ultimately not significant externality of the evaluation process. Learning tends to get lost or overlooked, especially if it is in a non-quantitative or narrative format (Dunkley & Franklin, 2017).

Finally, traditional modes of evaluation are often challenged by the project actors themselves who reflect a heterogeneous range of capabilities, interests and levels of methodological rigour in undertaking what they perceive to be effective evaluations using appropriate monitoring methods (Hobson, Hamilton, & Mayne, 2014; Gupta et al., 2015; Hobson, Mayne, & Hamilton, 2016). Outcomes evaluations are hungry for high quality and reliable data, especially given the constraints real-world evaluations experience in accounting for counterfactuals (Blamey & Mackenzie, 2007).

## The Sustainable Harbrough Case Study Project

Both authors were involved with the case study project, albeit in different capacities. The second author represented the academic institution as a lead partner on the board of the Advisory Committee, referred to hereafter as the Partnership Board. This comprised a core group of sector representatives, including the local group of the Transition Town Network, food-related small and medium enterprise (SME) and energy-related SMEs, the district council, the senior partner non-profit organisation, the academic institution, and periodically representatives from the county council and a social housing provider. Their role was to advise and to confer accountability to the senior partner with whom the grant provider, Big Lottery, is contracted.

The four-person project team was funded for five years as part of the UK Big Lottery's

Communities Living Sustainably fund, and was operational from January 2013 until the fund ended in December 2017. The first author was a funded PhD researcher, working with the project team and supporting their development and use of a monitoring and evaluation framework. The data for the current paper is based on this original research work and is represented here in an abstracted form.

The Sustainable Harborough project (SHP) emerged from a successful expression of interest to the UK BIG Lottery (the philanthropic arm of the National Lottery Corporation) by the local Transition Town Network group and inherited a number of this group's aspirations. Project activities were common to sustainability transitions, with a primary focus on food and low carbon energy related activities. Over the course of five years, the project helped set up and support a food hub that is ongoing, has an online presence and delivers locally sourced produce. It also promoted the profile of local food at events and activities and championed a community-owned energy SME which attracted £180,000 investment from community members and coordinated the installation of at least two leased rooftop solar PV schemes.

The project participated in a formative evaluation and upon completion of the fund was evaluated summatively, particularly for its overall impact relative to the anticipated project outcomes. The lead author had been retained to generate a lessons-learned evaluation, the findings of which fed into both the final report to the funder and senior partner agencies and into the summative review and for public information and dissemination activities (Mitchell, Lemon, & Fletcher, 2019).

What is of particular relevance with respect to this paper is the adoption of what the project team referred to as an 'enabling ethos'. This ethos was predicated on capacity-building interventions with the local geographical and business communities, and was expressed by the project team's willingness to responsively follow the enthusiasm of the local stakeholders. At times, this manifest as providing a secretariat function and support resource for nascent SMEs, and at other times involved seeking out

networking opportunities for collaboration on activities commensurate with the project objectives.

Badged as a 'test-and-learn' project, the SHP posed a critical methodological question about the evaluation landscape: does one evaluate the project relative to the agreed outcomes or relative to the challenge to learn from project experience and testing? The contribution of traditional methodologies for evaluating the learning of a project is underdeveloped in comparison to their explanatory capability for evaluating the impacts, program logic and economic balance sheet of a focal project. From the perspective of the project actors and stakeholders, what was being tested and what was being learned about the 'act' of doing community-based sustainability transitions project work? How can evaluators access and utilise the phenomenological experiences of project actors and stakeholders who, through participation, make sense of the emergent challenges and opportunities that arise in the process of supporting sustainability transitions, that is, second-order learning (Ison et al., 2007; Mitchell, 2019)? As elaborated in the next section, developmental evaluation offers a useful methodological tool with which to leverage responses to such lines of inquiry.

## *Evaluation for Learning*

Practitioners require feedback from their operational milieu for a number of reasons, for example, to inform strategy, to shape practice and to extend engagement. Because they often require such information in real time, and in a form that is practical and informs future work, a mode of evaluation is needed that is equipped to provide information in a way that helps project actors innovate, adapt, understand and reflect upon their activities in context. Traditional evaluative methods are not well suited for capturing and utilising this granularity of data to inform ongoing strategic and tactical decisions and adaptations (Patton, 2011; McDonald, 2016).

For the purpose of this paper the case of the Sustainable Harborough Project will be considered via the lens of developmental

evaluation (DE). DE is an approach to project-based evaluations developed over some thirty years by Patton (2011) as a way to help

...identify the dynamics and contextual factors that make the situation complex, then captures decisions made in the face of complexity, tracks their implications, feeds back data about what's emerging, and pushes for analysis and reflection to inform next steps, and then the cycle repeats (p. 30).

In other words, DE is a cyclical process of engagement with project actors to explicitly elicit and capture reflective learning from experience, changes in project strategy and direction, challenges encountered, and the impact of the unexpected. Project actor experience is a rich resource to explore and learn about the praxis of community-based sustainability transitions. How do actors make sense of what they do through understanding and calibrating the scale and quality of project impacts and attempting to meet key objectives under changing and complex conditions? While effective actor learning can enhance the design and implementation of future projects through reflection and an experiential repository of continually changing contexts it appears to be an undervalued resource (Patton, 2001; Beers et al., 2014).

DE helps address this gap and contributes to a project's development; it is evaluation for development rather than evaluation of development, where the latter can treat development as an object, reified and static. In the former transcription, evaluation serves a dynamic process of development that is not judged solely against a set of performative criteria, thereby augmenting traditional evaluative practice.

DE is appropriate under conditions "[w]here predictability and control are relatively low, [and where] goals, strategies, and what gets done can be emergent and changing rather than predetermined and fixed" (Patton, 2011, p. 36). Community-based sustainability transitions projects are clearly appropriate candidate sites for applying DE as they invariably operate within conditions of uncertainty, complexity, multiple perspectives and vested interests, using indicators and outcomes that are themselves contested (e.g.,

Turcu, 2013). Under such conditions, traditional formative and summative approaches to evaluation using impact, process or economic methodologies are not well-suited for capturing and utilising project actor learning while doing; this is the strategic niche that DE addresses.

In practice, Development Evaluation will typically involve the following engagement activities (e.g., Patton, 2011):

- Identifying what outputs/ achievements (both short and long-term) have been achieved;
- Identifying what the systemic implications of achieving or not achieving intended outputs are in terms of immediate outcomes or consequences emerging from the activity?
- Exploring the actors' reactions to the outputs/ achievements and what has not been accomplished to date;
- Exploring how the achievements/ outputs (or lack of) align with project actors' vision, values, and understanding (framing/ sense-making/ meaning making) of the situation;
- Exploring with the actors how the achievement or lack of achievement informs their strategy and future actions.

Within the context of the current case study, the first author worked alongside the project team as an embedded consultant. This involved drawing on ethnographic methods, such as participant observation, during facilitated action research (Checkland & Holwell, 2007; Burns, 2010) meetings these observations would be played back to the team for their comments and to help inform how they strategised responding to particular challenges around, for example, engaging the local council or home owners in energy efficiency measures.

In the course of such conversations, the project team reflected on the outcomes of previous strategies, developed forward plans and anticipated potential obstacles to delivering against those and worked out contingency plans. A more detailed account of

these activities is given in the following section.

## Findings and Discussion

Because the focus of DE is on the recording of learning and the use of this as a resource for informing strategy, the application of action research is a useful means with which to frame and implement reflective team practices. Data collected for the present research was obtained through an extended three-year case study, using participant observation with the Sustainable Harborough Project (SHP), a five-year funded community-based sustainability initiative. Through the systematic acquisition of audio recordings of Partnership Board, Action Research, and some stakeholder meetings which have been transcribed, in whole or in part, and in addition to a corpus of project documentation, a large dataset has been accumulated which contains detailed accounts by project actors about their experience of participating in the project.

The analysis of this data involved the systematic review of the text files using open source qualitative data analytic software (RQDA) (Huang, 2014) and the application of a thematic coding dictionary developed through several iterative reviews to generate relevant codes. The themes used for coding are those that are of particular relevance to the research focus, such as the interpretation and operationalisation of monitoring and evaluation parameters, generation of learning, impact assessments, how problems and solutions are framed, and so on.

Thirty-five audio recordings were transcribed and thematically coded. In addition to the transcriptions, official documentation from the project have been reviewed, including minutes from meetings, newsletters and website pledges. On the basis of this analysis a number of findings can be articulated.

First, the project team acknowledged that a significant challenge for them was reconciling the data for the formal monitoring and evaluation (M&E) framework with the actual data they were able to obtain. This was due to poorly defined and ambiguous targets,

unrealistic time and geographical scales and data that was either inaccessible or out of date. It also combined with the pressure on the team to continually hit the program targets that did not adequately fit what the project actors themselves understood they were actively engaged in doing, such as reducing the town's overall energy consumption, or through relying on official energy consumption data with a two-year publishing lag, and may not even be attributable to the project itself.

Second, the team recognised that the project had inherited an M&E framework that was characterised by aspirational targets that often resulted in box-ticking exercises without knowing the value of why particular parameters were being recorded. Through critically reflecting on why some data were being collected, the team were able to find more value in it and incentive to do so. For example, one of the project outcomes was to increase the resilience of the local community to environmental change with an indicator of  $\frac{3}{4}$  of a million pounds sterling. This was described by the Delivery Manager during an early Partnership Board meeting (September 10th, 2014) as

...quite a difficult thing to measure and a very difficult thing to achieve and might not be the right sort of thing to be looking at. Looking at things in a different way might be more realistic (np).

A second indicator concerning biodiversity measured the change in numbers of bees counted on constructed wilderness plots was also seen as unrealistic. The indicators for measuring biodiversity at a local level were agreed to pose particular challenges with respect to being robust, meaningful and affordable to monitor.

Third, the design principles which informed how the project would be deployed seemed to result in a misalignment between the project and what was meant to be accomplished on one hand, and the criteria by which they are evaluated for success on the other. In social movements research, this concerns diagnostic framing (how the nature of the problem is understood) and prognostic framing (how the solution is fit to the problem diagnosis) and how the two frames are aligned

(Benford & Snow, 2000; Cress and Snow, 2000). In terms of the case study project, the misalignment between diagnosis and prognosis included a paucity in the capacity of the M&E framework to capture qualitative differences, for example, the depth of engagement with the project by particularly enthusiastic volunteers. Instead, the measure offered a blunt instrument that counted the total of volunteers participating in the project.

In addition to these initial findings, there is some evidence that the Sustainable Harborough Project (SHP) enacted a shift from a first order to a second order learning system. This suggests that the SHP was a system that had begun to learn how to learn and to proactively design itself to better respond to the complexity of its operational context.

A first-order learning system is characterised by an assumption that the project itself remains unchanged by the context into which it is deployed, and that it generates change in a relatively linear and predictable way. In contrast, a second-order learning system is something that becomes aware that it is capable of, and begins to experiment with, designing how it operates and is configured and how it can optimise its learning to achieve a better fit with its objectives when planning future activities. It is flexible and adaptive.

This change may be understood as a qualitative difference in the way that SHP construed itself. For example, how the project progressed from regarding itself as being funded by a program with a time window ahead of it to focusing on its own impact beyond that funding period; as a capacity-building enterprise that was able to facilitate opportunities for extant groups and organisations, etc. This also suggested a qualitative shift in how SHP envisaged its operating context. For example, not only through the conception of Market Harborough as a town but as a political space, a business community, and as a site of potential opportunities and constraints for project activities.

As a first-order system, SHP would seek to deliver against its indicators with minimal changes; it would not expect to exceed its funding limits or to deviate too far from its original purpose to generate learning about what works in the delivery of sustainability

transitions in a market town. As a second-order system however, SHP achieved these first-order outcomes but, in addition, also pursued impacts beyond its funding window. It was able to renegotiate indicators on the basis of its own experiences of being in place (which suggests some degree of reflexivity), learning not only about what works to deliver sustainability, but also about the processes of learning.

The project suggested four threshold conditions for this progression from first to second order learning to take place.

**Threshold 1: Discovering and transcending limitations.** This concerns issues inherent to the design of the project and its capacity for learning and was alluded to in the previous section of this paper.

Specifically, this characteristic is evidenced in the mismatch between an outcome and indicator framework. With SHP this was evidenced in the tensions between monitoring and evaluation processes that were organised around a delivery ethos and the enabling ethos the project draws upon and enacts.

A delivery framework tends to reference short-term and quantifiable measures reminiscent of a production-line approach to 'doing' sustainability. That the Project amended and adapted 50% of these outcomes early on suggested that it discovered these limitations and, in response to this discovery, developed an approach to the M&E process that more adequately reflected what it was actually doing. Specifically, the project team developed a 'vision statement' in which they described their own measures of success, and as summarised by the Delivery Manager at a summative evaluation meeting in December 2015:

...three or four of the original targets have been morphed slightly from where they started. There was one about bees, an increase in the bee count across what are described as 'buzzing borders', there was one about the CO2 emissions, and one around—a huge volume target—around economic activity (np).

In the process of changing the metrics by which the Project was to be evaluated, it

offered an alternative model on how to respond to the contextual challenges and opportunities that emerged from its interaction with the community shaped by the constraints and options that became available to it in situ and which could not have been anticipated ahead of time.

**Threshold 2: Having a legacy focus.** This threshold concerns how the project took steps early on to incorporate planning for its exit strategy and to extend this life beyond the funding window.

This suggests that the project had become self-aware, not only of its own demise, but also of designing itself to be better equipped to leave a viable legacy once the funding is finished. Discussions within the working group on how the legacy of the project was to be determined, what it might look like, and the ongoing debates with the senior partner offer key insights into how the SHP construed itself beyond December 2017.

In pursuit of this, for example, the project sought opportunities to engage the local authority and some private enterprises in developing a local food and hospitality brand. As a membership organisation, restaurants and food related businesses which used locally sourced food and drink products, and which could document efforts to strategically reduce their environmental impact. They were incentivised to participate through the generation of a publicly available map listing all participating businesses, which was linked to a quality assurance rating system, and to coach tour routes and associated special offers. This scheme was set into motion approximately eighteen months before the end of the funding and was envisaged as a legacy building on the community gardens, the local food and drink SME, and the social capital that had been established during the period of project funding. A further illustration of this threshold is the community-owned energy SME that the project set up and which now exists as an independent business, and which, as of this date, is still in operation facilitating ongoing investment in solar PV installations.

Of particular relevance here are that first, the Project recognised its own finitude and second, that it actively strategised for a means

to influence and shape meaningful activity beyond that point in time. In other words, the ending of the project funding was strategically incorporated into the planning from a relatively early stage in the Project's lifespan, and through a process of back casting informed most of the activities in an effort to ensure that the sustainability of the initial investment lasted longer than the actual five years of practice.

**Threshold 3: Building capacity beyond a delivery mandate.** An enabling ethos was established and with two main attributes. The first was the more obvious process of building local capacity among stakeholders. This involved the provision of direct training and information seminars, facilitating stakeholder groups, and bringing interested parties together, as well as augmenting existing interests through the undertaking of a secretariat function for a board of SME directors.

The second attribute involved an enabling ethos and taking the time to explore what is already in place on the ground, doing some basic evidence collection, looking for where the interest and energy is to get things done, seeking out where the gaps are and what can be built upon. All of this scanning work is a prelude to making plans so that the strategy was informed by insight about the local context. Again, this suggests the Project redesigning itself for learning how to learn.

With respect to the Sustainable Harborough Project (SHP), this second enabling aspect has a special relevance since the evidence gathered from consultation and site research prior to the Project's beginning was sparse, and these gaps in knowing had to be filled if it was to make any progress. This gap in knowledge at the beginning of the Project lends credence to how it started off as a first-order system designed in isolation of meaningful knowledge about local context and with a suite of program indicators that had little specific relevance or reference to Market Harborough. It was through the process of critically reflecting on the indicators, their relative viability, and relevance given the specifics of the context in which the project



was located (as described above), that the project actors shifted from delivering on what had been predetermined to what was a better fit to their circumstance. To draw on the social movements research language, the project actively sought to ensure a tighter alignment between the diagnostic and the prognostic framing and it did so in situ. These alignment activities included shifting from the predesigned focus on domestic energy efficiency due to a lack of uptake to a collaboration with businesses, changing from a delivery orientation to an engagement and enabling one to help embed learning and embryonic resources within the niche of the community itself, and setting up small-scale spaces within which ideas could be nurtured and supported.

**Threshold 4: Learning about being a learning project.** The last of the four thresholds means two things: first, it required that the project be clear about what it did not know. This endorses the previous points about the absence of baseline and initial data about the place, but it also means that the project had to learn about its own gaps in capacity, that is, what it was and was not capable of doing. Some of this may have been addressed at recruitment of staff, some of it through feasibility studies, and some through the evaluation of a friendly outsider, and good steering from the Board. In any event, the gaps in knowing both about the town and the Project's own knowledge base had to be acknowledged and defined before they could be addressed.

The second meaning of this threshold is that the Project deliberately experimented with different approaches to engagement and delivery. It then considered the results in terms of what seemed to work with respect to engagement, managing project activities, knowing when an activity was not working, adapting to changes outside of its control and becoming better prepared for the future, and so on. Again, this can be illustrated with shifts in focus away from domestic to business-based energy efficiency measures, an investment in starting and supporting small-scale SMEs until they could become quasi-independent, of recognising that reducing the CO2 footprint of the entire town was not

realistic nor attributable to anything that the project did, and investing in capturing and learning from their own learning of what did and did not seem to work to further small-scale and local sustainability. The action research function has a very useful role to play in helping projects such as this to acquire that capacity for learning by planning, doing, and evaluating.

## Conclusions

The foregoing text considers the application of developmental evaluation to a case study community-based sustainability transitions project. It has been posited that developmental evaluation (DE) offers an adjunct to traditional evaluation methodologies due to the method's explicit focus on eliciting and capturing project-based experiential learning and recruiting this acquisition as an additional resource for actors to use in real time. The application of this methodology to the case study has been briefly reviewed, and in the course of using this method, the evolution from a first order to a second-order learning project has been traced through a series of four threshold conditions. These thresholds cannot, at this point, be generalised to other similar projects, but that is an avenue intended for future research. It may already be anticipated however that each project will have its own unique journey through threshold conditions, given that the learning resource will be germane to each team of actors engaged in their own context of operation.

Nevertheless, at this point in this research process, several considerations for project design and funding may be raised. These are summarised below and may be confirmed or challenged as the number of case studies is increased.

- Given that it is improbable that the operational context will be known and understood at the outset of a project's design and funding, it is necessary for points of intervention and measures of success to be allowed to evolve and not be constrained by the details of project design and funding regime targets which should define the

broad outcomes but not the specific indicators.

- Projects invariably operate within complex, changing contexts and are likely to elicit incremental change until a critical mass is achieved. However, this process takes time, particular for stakeholders to buy in to the objectives and become involved. Consequently, sustainability transitions projects should be funded for sufficient time to allow for this buy-in, enabling process and exit and legacy capabilities to be achieved. In SHP this was five years with the first and last years concentrating on buy-in and legacy respectively.
- In recognition of the time it takes to establish and embed changes within a community setting, at the end of the funding period an option should be made for a social impact bond, or 'pay-for-success' model of transition financing to help newly minted SMEs become independent which would facilitate the transition from the support offered by the project to a more competitive economic and political milieu once the project funding has ceased.
- Due to its focus on reflective learning, action research should be included as part of the repertoire of sustainability transition project design, as it was in the original design of the SHP. This should also include project actor training, and/or provision for external facilitation of the process to help the emergence of second-order learning among the project staff.
- Qualitative and quantitative indicators are to be favoured over a purely quantitative indicator set, and these should be subject to renegotiation on the basis of strong evidence that there is a mismatch. As noted above, and reiterated by the Chair of the Partnership Board in an early 2015 meeting, "some of the messages back to the Lottery

[...] will be around how we capture the quality of the project and not just the quantity of the project" (nd).

- Projects should be encouraged to develop an enabling ethos rather than being treated as delivery vehicles for something that is pre-packaged by program and project designers who are invariably not cognisant of the community setting, or context to be affected.

These considerations emerged from ongoing case study work and would benefit from further testing for goodness of fit and appropriateness with other similar projects. It is suggested that by utilising the learning acquired from project actor's experience and reinvesting this as a resource for innovation and adaptation, community-based sustainability transition projects may become better suited as vehicles to help facilitate the delivery of policy while maintaining high standards of accountability to funders. That is, by incorporating Developmental Evaluation into the regime of monitoring and evaluation methods with which the added value of such projects is assessed, they can be supported in becoming more fit for purpose and adapted to better operate within conditions of dynamic complexity.

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